AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a system for processing MPEG data in preparation for displaying video images encoded in the MPEG data, a method for subsampling the MPEG data to reduce the volume of video data processed to display the video images, comprising the acts of:

processing one or more motion vectors in order to produce coordinates for fetching prediction data from a previously decoded and subsampled reference frame;

processing the reference frame and the one or more motion vectors of the MPEG data using a frame prediction module to generate predicted subsampled frame data;

processing frequency coefficients of the MPEG data using an inverse discrete cosine transformer (IDCT) to generate IDCT output data;

~~decimating~~ subsampling the IDCT output data by a selected factor to generate ~~decimated~~ subsampled IDCT output data, wherein subsampling the IDCT output data includes weighting color parameters of at least first and second spatial samples using at least first and second weighting factors, respectively, and summing the weighted color parameters of the at least first and second spatial samples to generate a color parameter of a subsample that corresponds to the at least first and second spatial samples; and

summing the predicted subsampled frame data and the ~~decimated~~ subsampled IDCT output data to generate video images encoded in a reduced volume of video data.

2. (Original) The method as recited in claim 1, wherein the act of decimating the IDCT output by a selected factor comprises the act of decimating the IDCT output by a factor of two.

3. (Currently Amended) The method as recited in claim 1, wherein the MPEG data, prior to the act of ~~decimating~~subsampling, is originally formatted for display on a display device with a first video resolution, the method further comprising the act of displaying the generated video images on a display device having a second video resolution that is less than the first video resolution.

4. (Original) The method as recited in claim 3, wherein:

the display device having the first video resolution is a high definition television; and

the display device having the second video resolution is a standard television.

5. (Original) The method as recited in claim 1, further comprising the act of displaying the video images in a window in a picture-in-picture display, the window having a resolution less than a resolution of the MPEG data as the MPEG data existed prior to the act of decimating.

6. (Currently Amended) A method as recited in claim 1, wherein the act of ~~decimating~~ subsampling comprises the act of subsampling the IDCT output data by a first factor in a first direction and by a second factor in a second, perpendicular direction, such that the IDCT output data is decimated by the selected factor.

7. (Original) A method as recited in claim 6, wherein the first factor is equal to the second factor.

8. (Original) A method as recited in claim 1, further comprising, after the act of summing, the acts of:

buffering a first frame of the video images in a first frame buffer; and

buffering a second frame of the video images in a second frame buffer, wherein each of the first frame buffer and the second frame buffer has a data storage capacity that is smaller than that which would be needed to store a frame of the MPEG data prior to decimation.

9. (Currently Amended) In a system for processing MPEG data in preparation for displaying video images encoded in the MPEG data, a method for subsampling the MPEG data to reduce the volume of video data processed to display the video images, comprising the acts of:

processing a reference frame and motion vectors of the MPEG data in a frame prediction module to generate predicted frame data;

transforming frequency coefficients of the MPEG data to a spatial domain to obtain spatial domain data associated with the MPEG data;

subsampling the spatial domain data by a selected factor to generate subsampled spatial domain data, wherein subsampling the spatial domain data includes weighting color parameters of at least first and second spatial samples using at least first and second weighting factors, respectively, and summing the weighted color parameters; and

summing the predicated frame data and the subsampled time domain data to generate video images encoded in a reduced volume of video data; and

buffering frames of the video images in frame buffers having a size that is smaller than that which would have been required to buffer frames of the video images if the act of subsampling were not performed.

10. (Original) The method as recited in claim 9, wherein the MPEG data, prior to the act of subsampling, is originally formatted for display on a display device with a first video resolution, the method further comprising the act of displaying the generated video images on a display device having a second video resolution, wherein the second video resolution that is lower than first video resolution.

11. (Original) The method as recited in claim 10, wherein:

the display device having the first video resolution is a high definition television; and

the display device having the second video resolution is a standard television.

12. (Original) The method as recited in claim 9, further comprising the act of displaying the video images in a window in a picture-in-picture display, the window having a resolution less than a resolution of the MPEG data as the MPEG data existed prior to the act of subsampling.

13. (Original) The method as recited in claim 9, wherein the act of processing a reference frame and motion vectors comprises the act of decimating the motion vectors using the selected factor by which the spatial data is subsampled.

14. (Currently Amended) The method as recited in claim 9, wherein weighting the color parameters comprises:~~the act of subsampling the spatial data is performed in the vertical direction and comprises the acts of~~:

weighting a color parameter of a first spatial sample using a first weighting factor;

weighting a color parameter of a second spatial sample using a second weighting factor; and

summing the weighted color parameter of the first spatial sample and the weighted color parameter of the second spatial sample to generate a color parameter of a subsample that corresponds to the first spatial sample and the second spatial sample.

15. (Original) The method as recited in claim 14, wherein:

the MPEG data comprises non-interlaced video data;

the second spatial sample is immediately vertically adjacent to the first spatial sample; and

the first weighting factor and the second weighting factor are equal.

16. (Original) The method as recited in claim 14, wherein:

the MPEG data comprises interlaced video data;

the first sample and the second sample are vertically adjacent in a field of the interlaced video data;

the first weighting factor is different from the second weighting factor.

17. (Original) The method as recited in claim 16, wherein:
the first weighting factor is equal to ¾; and
the second weighting factor is equal to ¼.

18. (Original) A computer program product for implementing, in a system for processing MPEG data in preparation for displaying video images encoded in the MPEG data, a method for subsampling the MPEG data to reduce the volume of video data processed to display the video images, the computer program product comprising:

a computer-readable medium carrying computer-executable instructions, that when executed at the system, cause the system to perform the acts of:

processing one or more motion vectors in order to produce coordinates for fetching prediction data from a previously decoded and subsampled reference frame;

processing the reference frame and the one or more motion vectors of the MPEG data using a frame prediction module to generated predicted subsampled frame data;

processing frequency coefficients of the MPEG data using an inverse discrete cosine transformer (IDCT) to generate IDCT output data comprising spatial samples;

~~decimating~~ subsampling the IDCT output data by a selected factor to generate ~~decimated~~ subsampled IDCT output data, wherein subsampling the IDCT output data includes weighting color parameters of at least first and second spatial samples using at least first and second weighting factors, respectively, and summing the weighted color parameters of the at least first and second spatial samples to generate a color parameter of a subsample that corresponds to the at least first and second spatial samples; and

summing the predicted subsampled frame data and the ~~decimated~~ subsampled IDCT output data to generate video images encoded in a reduced volume of video data.

19. (Original) The computer program as recited in claim 18, wherein the act of decimating the IDCT output by a selected factor comprises the act of decimating the IDCT output by a first factor in a first direction and a second factor in a second perpendicular direction, such that the IDCT output is decimated by the selected factor.

20. (Original) The computer program as recited in claim 18, further comprising the act of identifying the selected factor, the selected factor being identified to reduce the volume of MPEG data that is to be processed to display the video images and retain enough video data to display the video images at a video resolution that is supported by a display device associated with said system.

21. (Original) The computer program as recited in claim 18, wherein the MPEG data, prior to the act of decimating, is originally formatted for display on a display device with a first video resolution, the computer-executable instructions, when executed at the system, further causing the system to perform the act of displaying the generated video images on a display device having a second video resolution that is less than the first video resolution.

22. (Original) The computer program product as recited in claim 21, wherein:

the display device having the first video resolution is a high definition television; and

the display device having the second video resolution is a standard television.

23. (Original) The computer program as recited in claim 18, wherein the computer-executable instructions, when executed at the system, further cause the system to perform the act of displaying the video images in a window in a picture-in-picture display, the window having a resolution of the MPEG data as the MPEG data existed prior to the act of decimating.

24. (New) A computer program product comprising one or more computer-readable media having computer-executable instructions for implementing the method recited in claim 9.

25. (New) A method as recited in claim 14, wherein the first weighting factor and the second weighting factor are different.

26. (New) A method as recited in claim 1, wherein at least two of the color parameters are different.

27. (New) A method as recited in claim 9, wherein transforming frequency coefficients of the MPEG data to a spatial domain to obtain spatial domain data associated with the MPEG data is performed using a transform other than the inverse discrete cosine transform.